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| Data      Statistical Analysis for Question 1    **Gender:** Male    **Purpose:** to determine if there is a significant difference in the number of males who prefer either Color 1A (yellow) or Color 1B (orange)   **The Chi-square Test**   H0 = There is no significant difference between the observed number of females who prefer either color 1A (yellow) or color 1B (orange)    Ha = there is a significant difference    The decisive value of p, or the significance level, will be ± = .05    The expected count will be \* the total number of males who took the survey because this would imply that half of the males preferred each color with no significant preference:   \* ( 86 males) = 43     |  |  |  | | --- | --- | --- | | Question Number | Number of Males Who Preferred color A | Number of Males Who Preferred color B | | **1** | 38 | 48 |     Chi-square = (observed count expected count)2 / (expected count)    Chi-square =  (observed count preferring color 1A expected count)2 / (expected count) +     (observed count preferring color 1B expected count)2 / (expected count)  =    Chi-square =  [(38 43)2 / (43)]   +   [(48 43)2 / (43)] = 1.16      P-value:  with df = 1, p = greater than .35    The results proved nonsignificant at the .05 significance level.  This means there was not a significant difference in the number of males who preferred color 1A (yellow) and the number of males who preferred the color 1B (orange) when compared with the expected count of half the males preferring each color.    \* Just as we did for Question 1, we performed the chi-square statistical test for analyzing the data from questions 2 through 21 for both males and females. The results of the chi-square value and p value are recorded in the following tables.  Significance or nonsignificance is also reported.    Statistical Summary for Females    **Gender**: Females   |  |  |  |  | | --- | --- | --- | --- | | Question Number | Chi-squared Value | P (probability) Value | Significant or Nonsignificant? | | 1 | 11.59 | Between .0005 and .001 | S | | 2 | 35.51 | Less than .0005 | S | | 3 | 12.78 | Less than .0005 | S | | 4 | 7.42 | Between .01 and .005 | S | | 5 | 16.7 | Less than .0005 | S | | 6 | 19.59 | Less than .0005 | S | | 7 | 0.72 | Greater than .25 | NS | | 8 | 94.17 | Less than .0005 | S | | 9 | 10.46 | Between .0025 and .001 | S | | 10 | 8.38 | Between .005 and .0025 | S | | 11 | 31.57 | Less than .0005 | S | | 12 | 1.86 | Between .2 and .15 | NS | | 13 | 0.46 | Greater than .25 | NS | | 14 | 0.46 | Greater than .25 | NS | | 15 | 19.59 | Less than .0005 | S | | 16 | 1.42 | Between .25 and .2 | NS | | 17 | 90.9 | Less than .0005 | S | | 18 | 18.12 | Less than .0005 | S | | 19 | 33.51 | Less than .0005 | S | | 20 | 7.42 | Between .01 and .005 | S | | 21 | 2.9 | Between .1 and .05 | NS |         Statistical Summary for Males    **Gender**: Male   |  |  |  |  | | --- | --- | --- | --- | | Question Number | Chi-squared Value | P (probability) Value | Significant (S) or Nonsignificant (NS)? | | 1 | 1.16 | Greater than .25 | NS | | 2 | 13.44 | Less than .0005 | S | | 3 | 18.6 | Less than .0005 | S | | 4 | 39.12 | Less than .0005 | S | | 5 | 67.16 | Less than .0005 | S | | 6 | 3.77 | Between .15 and .10 | NS | | 7 | 70.74 | Less than .0005 | S | | 8 | 31.44 | Less than .0005 | S | | 9 | 1.16 | Greater than .25 | NS | | 10 | 20.51 | Less than .0005 | S | | 11 | 4.65 | Between .10 and .05 | NS | | 12 | 13.44 | Less than .0005 | S | | 13 | 4.65 | Between .10 and .05 | NS | | 14 | 0.744 | Greater than .25 | NS | | 15 | 1.67 | Between .20 and .15 | NS | | 16 | 0.047 | Greater than .25 | NS | | 17 | 60.27 | Less than .0005 | S | | 18 | 9.11 | Between .005 and .0025 | S | | 19 | 39.12 | Less than .0005 | S | | 20 | 5.63 | Between .02 and .01 | S | | 21 | 0.418 | Greater than .25 | NS |       Data Summary    Table Summarizing Color Preference By Gender       |  |  | | --- | --- | | Question Number | Female Preference | | **1(colors written in words)** | Significantly prefer the color yellow over the color orange | | **2(colors written in words)** | Significantly prefer the color blue over the color green | | **3(colors written in words)** | Significantly prefer the color blue over the color red | | **4(colors written in words)** | Significantly prefer the color light blue over the color blue | | **5(color sample shown)** | Significantly prefer bright warm colors (red, orange, and yellow) over soft, or pastel, warm colors | | **6 (color sample shown)** | Significantly prefer cool colors (blue, green, and purple) over warm colors | | **7(color sample shown)** | Do not significantly prefer bright cool colors over soft cool colors(but 46% preferred the bright cool colors and 54% preferred the soft cool colors) | | **8(color sample shown)** | Significantly prefer cool colors over warm colors | | **9(color sample shown)** | Significantly prefer the color teal over the color green | | **10(color sample shown)** | Significantly prefer the color blue over the color teal | | **11 (colors written in words)** | Significantly prefer cool colors over warm colors | | **12(colors written in words)** | Do not significantly prefer the color blue or the color teal(but 56% prefer the color blue and 44% prefer the color teal) | | **13(colors written in words)** | Do not significantly prefer the color green or the color teal(but 47% prefer the color green and 53% prefer the color teal) | | **14 (color sample shown)** | Do not significantly prefer either shade of light blue(but 47% prefer color 14A and 53% color 14B) | | **15 (color sample shown)** | Significantly prefer the shade of dark blue labeled 15B | | **16 (color sample shown)** | Do not significantly prefer either shade of red(but 55% prefer color 16A and 45% color 16B) | | **17 (color sample shown)** | Significantly prefer the shade of yellow labeled 17A | | **18 (color sample shown)** | Significantly prefer the shade of green labeled 18B | | **19 (color sample shown)** | Significantly prefer the shade of orange labeled 19A | | **20 (color sample shown)** | Significantly prefer the shade of purple labeled 20A | | **21 (color sample shown)** | Do not significantly prefer either shade of bright green(but 43% prefer color 21A and 57% prefer color 21B) |          |  |  | | --- | --- | | Question Number | Male Preference | | **1(colors written in words)** | Do not significantly prefer the color yellow or the color orange(but 44% preferred the color yellow and 56% preferred the color orange) | | **2(colors written in words)** | Significantly prefer the color blue over the color green | | **3(colors written in words)** | Significantly prefer the color blue over the color red | | **4(colors written in words)** | Significantly prefer the color blue over the color light blue | | **5(color sample shown)** | Significantly prefer bright warm colors (red, orange, and yellow) over soft, or pastel, warm colors | | **6 (color sample shown)** | Do not significantly prefer warm or cool colors (but 40% preferred the warm colors and 60% preferred cool colors) | | **7(color sample shown)** | Significantly prefer bright cool colors over soft cool colors | | **8(color sample shown)** | Significantly prefer cool colors over warm colors | | **9(color sample shown)** | Do not significantly prefer the color green or teal (but 55% preferred green and 45% preferred teal) | | **10(color sample shown)** | Significantly prefer the color blue over the color teal | | **11 (colors written in words)** | Do not significantly prefer warm or cool colors (but 62% prefer cool colors and 38% prefer warm colors) | | **12(colors written in words)** | Significantly prefer the color blue over the color teal | | **13(colors written in words)** | Do not significantly prefer the color green or the color teal(but 62% prefer the color green and 38% prefer the color teal) | | **14 (color sample shown)** | Do not significantly prefer either shade of light blue(but 55% prefer color 14A and 45% prefer color 14B) | | **15 (color sample shown)** | Do not significantly prefer either shade of dark blue(but 43% prefer color 15A and 57% prefer color 15B) | | **16 (color sample shown)** | Do not significantly prefer either shade of red(but 49% prefer color 16A and 51% color 16B) | | **17 (color sample shown)** | Significantly prefer the shade of yellow labeled 17A | | **18 (color sample shown)** | Significantly prefer the shade of green labeled 18B | | **19 (color sample shown)** | Significantly prefer the shade of orange labeled 19A | | **20 (color sample shown)** | Significantly prefer the shade of purple labeled 20A | | **21 (color sample shown)** | Do not significantly prefer either shade of bright green(but 53% prefer color 21A and 46% prefer color 21B) |             [[**data1**](http://docs.google.com/data.html)][[**data2**](http://docs.google.com/data2.html)][[**data3**](http://docs.google.com/data3.html)][[**data4**](http://docs.google.com/data4.html)]  [[Home](http://docs.google.com/home.html)][[Introduction](http://docs.google.com/introduction.html)][[Hypothesis](http://docs.google.com/hypothesis.html)][[Procedure](http://docs.google.com/procedure.html)][[Data](http://docs.google.com/data.html)][[Conclusions](http://docs.google.com/conclusions.html)][[Bilio/Links](http://docs.google.com/biblio.html)]  [2002 Projects][2001 Projects][2000 Projects][1999 Projects][1998 Projects] |